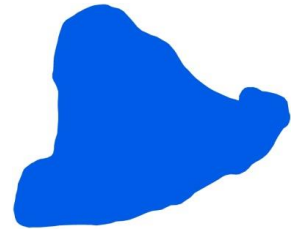


Summary

Little Wabana Lake is located 13.8 miles north of Grand Rapids, MN in Itasca County. There is evidence of an improving transparency trend.

Little Wabana Lake has no inlets or outlets, which classify it as a groundwater seepage lake. The main impacts to the lake would be the land use practices around the shoreline.



Water quality data have been collected on Little Wabana Lake from 1999-2015 (Tables 2 & 3). These data show that the lake is oligotrophic (TSI = 38) with moderately clear water conditions most of the summer and excellent recreational opportunities.

Little Wabana Lake is part of the Wabana Chain of Lakes Association (WCOLA). The association is involved in activities such as water quality monitoring and education.

Lake Vitals

| | |
|----------------------------------|------------------------------|
| MN Lake ID: | 31-0399-00 |
| Ecoregion: | Northern Lakes and Forests |
| Major Watershed: | Mississippi R. -Grand Rapids |
| Surface area | 116 acres |
| % Littoral area: | 32% |
| Max depth: | 57 (ft) 17 (m) |
| Aquatic Invasive Species: | None |

Long-term Trends

Recommend minimum of 8-10 years of data with 4+ readings per season. Minimum confidence accepted by MPCA is 90%

Phosphorus: Insufficient Data (2010-2011, 2020)

Chlorophyll-a: Insufficient Data (2000, 2010-2011, 2020)

Secchi Depth: Insufficient (2010-2011, 2020)

Water Quality Characteristics

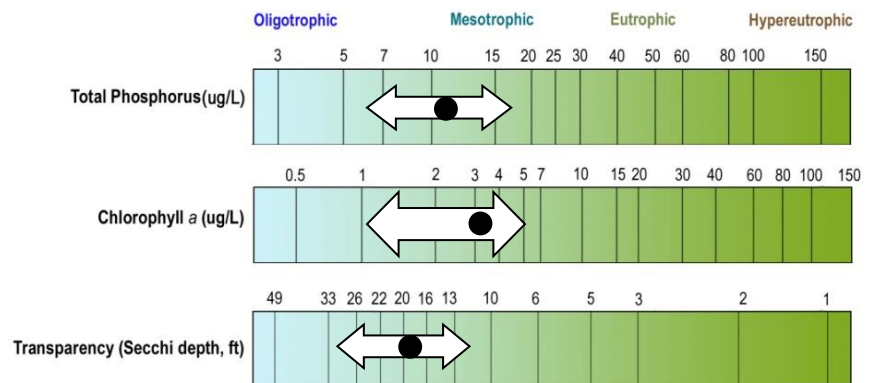
Parameters

| | Site 203 |
|-------------------------------|---------------------------|
| Total Phosphorus Mean (ug/L): | 10.4 |
| Total Phosphorus Min (ug/L): | 6.0 |
| Total Phosphorus Max (ug/L): | 17 |
| Number of Observations: | 13 |
| Chlorophyll-a Mean (ug/L): | 3.6 |
| Chlorophyll-a Min (ug/L): | 1 |
| Chlorophyll-a Max (ug/L): | 5 |
| Number of Observations: | 13 |
| Secchi Depth Mean (ft): | 20.8 |
| Secchi Depth Min (ft): | 12.1 |
| Secchi Depth Max (ft): | 29.5 |
| Number of Observations: | 12 |

Trophic State Index

Trophic State: Oligotrophic (38)

The figure below shows the minimum and maximum values with the arrows and the mean with the black dot.



Historical Data Summary

Monitoring Program

| |
|--|
| Citizen Lake Monitoring Program |
| Water Quality Inventory of Itasca County Lakes |
| Lake Monitoring Program |
| Wabana Chain of Lakes |
| Wabana Chain of Lakes |
| Wabana Chain of Lakes |

Laboratory

| |
|--|
| - |
| Itasca Community College & NE Technical Services, Inc. |
| - |
| Itasca Community College |
| Instrumental Research |
| MN Chippewa Tribe |

Years

| |
|------------|
| 1999-2015 |
| 2010-2011 |
| 2000, 2020 |
| 2010, 2014 |
| 2005, 2008 |
| 1999, 2003 |